

REMARKS

The Office action of March 26, 2004 has been received and its contents carefully noted.

In amended FIGs. 1-3, a label of "Prior Art" has been added.

The specification has been amended in accordance with the objection noted in the Action.

Claims 1-16 are pending in the application. Applicant notes the rejection of claims in accordance with 35 USC § 112. While not agreeing with this rejection, Applicant has amended Claims 1-3, 9-12, and 14-16 for clarity and therefore Claims 11-12 should be deemed allowable in accordance with the Action. Claims 17-23 have been added without the addition of any new matter. Claim 2 has been canceled. Also, support for the amendments to Claims 1 and 3 may be found, for example, in FIGS. 4-11 and on page 4, lines 24-30, page 5, lines 1-22, page 12, lines 19-29, and page 13, lines 1-6.

Claims 1-10, and 13-16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of Albers et al. ("Albers") (U.S. Patent No. 5,153,532). Applicant respectfully traverses these rejections, and request allowance thereof in the continuation prosecution application for the following reasons.

The Present Claims are Patentable Over the Cited References

**Claims 1-10, and 13-16 are not made obvious by Albers and
Admitted Prior Art**

Claims 1-10, and 13-16 were rejected under § 102(b) in view of Albers and the Admitted Prior Art. Albers and the Admitted Prior Art (AAPA), either alone or in combination, fail to disclose the features recited in these claims as amended such as a method of generating a random binary waveform containing events which occur at random intervals including deriving, from a physical noise source, a first preliminary signal containing first events occurring asynchronously and at random intervals and multiplying the first preliminary signal with at least one further preliminary signal containing further events, said at least one further preliminary signal being a deterministic signal, so as to intersperse the first and further events.

Also, either alone or in combination, Albers and the AAPA fail to disclose the amended recited features of claim 3 including deriving, from a physical noise source, a first preliminary signal containing first events occurring asynchronously and at random intervals and multiplying the first preliminary signal with at least one further preliminary signal containing further events occurring at random intervals so as to intersperse the first and further events, wherein said first preliminary signal and said at least one further preliminary signal is derived by level-detecting a random amplitude analog signal at respective different levels.

The admitted Prior Art is limited to FIGs. 1-3 and the related portions of the present application which certainly do not describe the recited features including a further preliminary signal and a

means for multiplying as noted in the Action on page 5.

Also, Albers fails to disclose these patentably distinct features of multiplying a first preliminary signal containing events occurring asynchronously derived from a physical noise source with a deterministic signal, or multiplying a first preliminary signal with a further preliminary signal where the signals are derived by level-detecting a random amplitude analog signal at respective different levels.'

In contrast, Albers solely discloses logically combining two pseudo-random-bit generators to provide a third pseudo-random-bit generator with particular white noise characteristics. There is absolutely no mention of multiplying a deterministic signal (as derived from the pseudo-random-bit generator) with a signal containing events occurring asynchronously derived from a physical noise source. Throughout Albers, there is only the mention of combining the output of two deterministic signal sources (pseudo-random-bit generators) and no mention of combining a deterministic source with a physical noise source as recited.

Further, any attempt to combine the AAPA with Albers to teach combining a deterministic source with a physical noise source as recited would be engaging in improper hindsight obviousness analysis since the AAPA only teaches non-deterministic sources (the physical noise source) and Albers only teaches deterministic sources. Since Albers only discloses combining two of the same signal sources any potential combination of Albers with the AAPA

would only result in combining two physical noise sources (non-deterministic sources) and would not result in changing only one of the Albers' signal sources to a physical noise source since this would strongly teach away from Albers.

Further, Albers requires the combination of only deterministic sources since Albers generates a bit sequence with a known repeat pattern. Specifically, Albers states that "...provides a pseudo-random-bit-sequence as is known in the art...the bit sequence eventually repeats itself after 2^m-1 clock pulses or cycles...in the present invention, the output of XOR 300 is a pseudo-random-bit-sequence which repeats when: $N1*S1/F1 = N2*S2/F2$...the repeat sequence presented to XOR gate 300 will repeat after 13 repeat sequences of PRSG1 in the same time that it takes for 40 repeat sequences of PRSG2 to occur." (see FIGs. 1-4; col. 2, lines 36-40; col. 4, lines 4-10). Albers' sole purpose is to generate a deterministic signal (known repeat pattern) from combining deterministic sources and therefore could not work with combining a deterministic source with a physical noise source as recited.

Regarding the recited feature of claim 3, Albers makes no mention of multiplying signals where the first preliminary signal and the further preliminary signal are derived by level-detecting a random amplitude analog signal, from a physical noise source, at respective different levels. Again, Albers solely discloses combining deterministic sources (pseudo-random bit signals) and makes no mention of producing a signal from a physical noise source

and then level-detecting this signal at different thresholds to produce a signal with interspersed events at random intervals. Further, the AAPA makes no mention of this feature as FIGs. 1-3 make no reference to level-detecting a signal generated from a physical noise source at different levels as recited.

The AAPA and Albers, either alone or in combination, fail to disclose the claimed invention making the recited features non-obvious from the cited reference.

Conclusion

In view of the amendments and remarks submitted above, it is respectfully submitted that all of the remaining claims are allowable and a Notice of Allowance is earnestly solicited.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayments to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

The Examiner is invited to contact the undersigned at (703) 205-8000 to discuss the application.

Respectfully submitted,

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by



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ABSTRACT

A random binary signal is generated using a plurality of noise sources, each of which defines events occurring at random intervals, the outputs of the sources being combined in such a way that the events are interspersed in the resultant signal.

~~{Fig. 4 to accompany the abstract}~~